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(12) (19) (CA) **Demande-Application**

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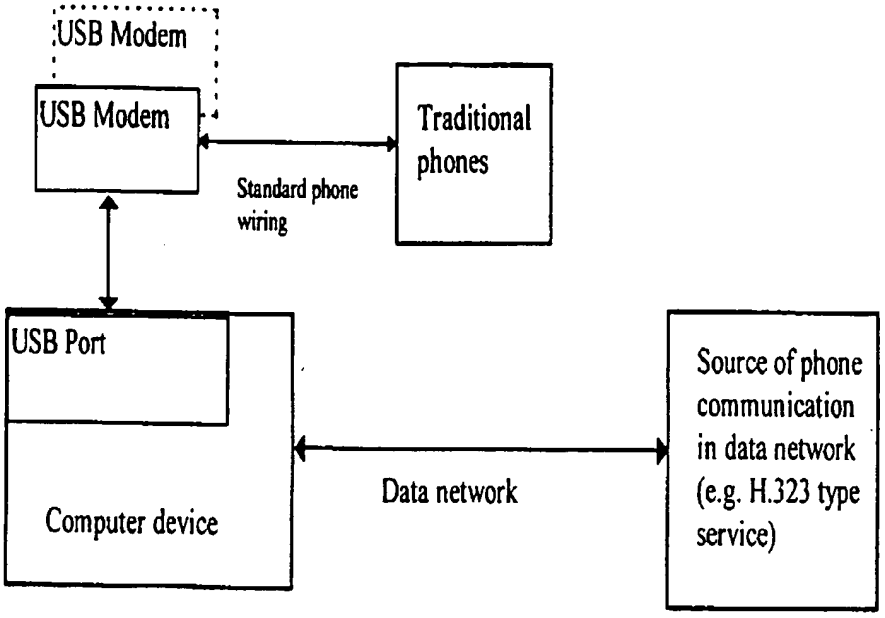
(54) **MODEM USB (BUS SERIE UNIVERSEL)**
(54) **USB (UNIVERSAL SERIAL BUS) MODEM**



(57) This invention will enable a device connected to a data network to connect to conventional phone wiring and provide phone service connection to standard phone equipment for communication over a data network. The data network could be a LAN, a cable HCF (Hybrid Copper Fiber) or any other data network. The connection will be via a USB (Universal Serial Bus) connection on a PC, Set Top Box, or other computing device. That device will then in turn be connected to the data network in some manner.

Abstract

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Specification

This invention relates to the connection of standard phone devices for communication over a data network. The device will perform all of the standard functions associated with a line card used to connect a standard phone to a telephone exchange. It will provide power to the phone devices. Be able to ring the phone devices. Be able to detect off hook condition. Be able to detect flash hook condition. Be able to receive DTMF information from the phones connected to it when the are off hook. Be able to send and receive audio information in the manner that used with standard telephone devices. It will also interact with a computer device to provide an interface for phone service communication over a data network. The connection to the computer device will be via a USB connection. More than one connection can be made to the computer device thus allowing multiple phone lines to operate on the same USB chain.

How It Works

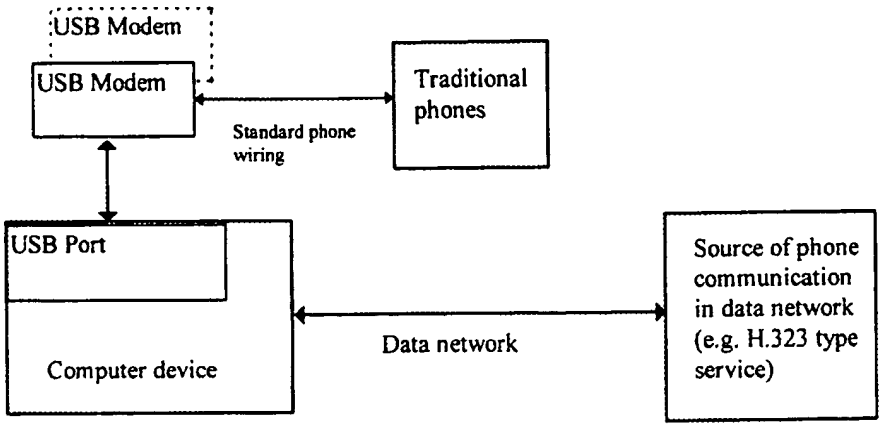

Figure 1

There will be a communications interface to enable the device to communicate in a bi-directional manner with a phone type service on the data network. This will include all of the call event features that can be supported on a regular phone device. This include services such as providing CLI (calling line identification) information and call waiting tones.

The wiring connection on the device will use a modular type jack to allow simple patch cord connection into existing phone wiring of the type used in North American houses. An adapter can be used to plug into other types of connectors or other connection type jacks can be used on the device.

Detailed Description Of The Preferred Embodiment

The USB modem is an external box attached to a computer device via a USB port. It will be connected on one side to a standard telephone or a series of standard telephones. They can be connected through standard wiring infrastructure that is currently used for connecting telephones.

The reverse modem will be connected to a data network which will provide the data for the communication to the telephone devices. This will include the voice information and all the assocated signaling information. This enables the phones to ring, dial, have call waiting and all the other services that a phone set can perform.

The USB modem will be able to detect the different states of the phones devices connected to it (on hook, off hook and flash hook conditions) and be able to provide the services to the phone devices to enable them to operate in a normal manner. This will include power for the telephones, ringing pulses, dialing tones from the DTMF keypad on the phones, and embedded information such as CLI data.

Through associated software on the computing device, voice communication can be established with other parties in a manner which is normally associated with the use of a telephone. This would include dialing a person to establish communication.

The software could use the established H.323 protocol, or any other protocol for voice communication over a data network.

Furthermore the device could have multiple connectors to allow the connection of multiple phones, or phone wiring segments for use in connection with multiple independent service connections (i.e. different phone lines that can be used by different parties at the same time)

I claim:
A system to allow computer device to be connected via a USB port to existing telephone devices to enable them to function in a traditional manner for telephone service, which in this case is provided over a data network.

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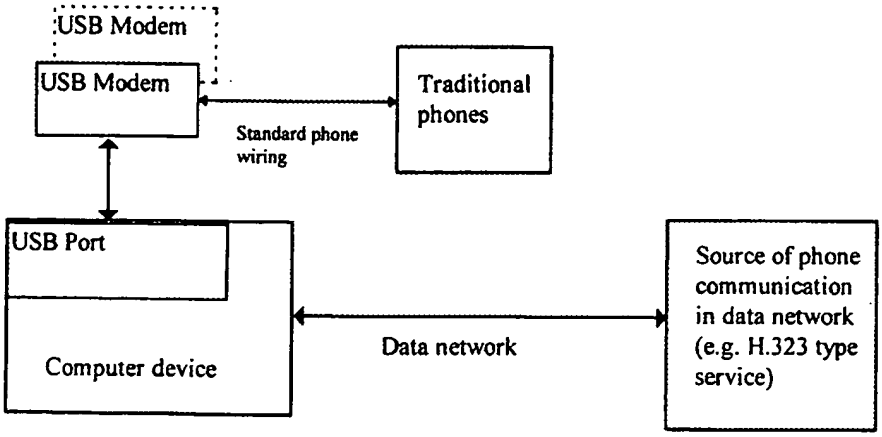
USB Modem
USB Modem
Traditional phones
Standard phone wiring
USB Port
Computer device
Data network
Source of phone communication in data network (e.g. H.323 type service)

Figure 1